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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/539,028	06/15/2005	Michael Perkuhn	DE020292US	2557

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EXAMINER

CATTUNGAL, SANJAY

ART UNIT	PAPER NUMBER
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3768

NOTIFICATION DATE	DELIVERY MODE
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03/08/2011

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/539,028	Applicant(s) PERKUHN ET AL.	
	Examiner SANJAY CATTUNGAL	Art Unit 3768	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 January 2011.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. **Claims 21, 24, 27-30, 35, 38, and 40, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,374,667 to Eriksen et al. in view of U. S. Patent No. 6,186,941 to Blackwell.**

Regarding **Claims 21 and 35**, Eriksen teaches a system and method that monitors physiological states, comprising: a power supply (fig. 6 element 117 is a signal generator which is a power supply); a resonant circuit (fig. 6 element 101) that induces an oscillating magnetic field in response to receiving energy from the power supply to a volume of interest of a human subject in the magnetic field and provides a signal characteristic of a power loss (every coil is capable of producing a signal characteristic of a power loss since a magnitude zero signal would be a signal characteristic of a power loss); and a detector that detects the signal (fig. 6 element 133 and 127 are amplifier and rectifier/detector for detecting the signals from the volume), wherein the signal is used to monitor a physiological state of the human subject (col. 6 lines 50-65 teaches measuring breathing, which is a physiological state).

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Eriksen does not expressly teach that the coil does not surround a perimeter of the human subject.

Blackwell teaches a resonant coil that does not surround the perimeter of the human subject (fig 1b element 101).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Eriksen to use coils that do not surround the subject as taught by Blackwell, since such a setup would make it easy to place/remove the coils from the subject.

3. Regarding **Claims 24 and 38**, Blackwell teaches that resonant circuit is integrated into a bandage affixed to the human subject (col. 6 lines 49-51 teaches attaching coil on a subject using elastic bandages, as such the coil is integrated onto a bandage).

4. Regarding **claim 27**, Eriksen teaches using the signal to monitor blood flow (fig. 13 teaches change in blood volume over time in the chest cavity, which can be used to calculate the blood flow in the chest cavity).

5. Regarding **claim 28**, Eriksen teaches using the signal to monitor edema (col. 5 lines 12-14).

6. Regarding **claims 29 and 40**, Eriksen teaches that the volume is a human heart, and the resonant circuit is placed chest of the human proximate to the heart (col. 6 lines 37-40 teaches monitoring for heart failure).

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7. Regarding **claim 30**, Eriksen teaches using the signal for calculating respiration rate of the subject (col. 6 lines 60-64 calculating quantitative amount of breathing, which is respiration rate and fig. 9 element 107).

8. **Claims 22, 23, 25, 26, 31, 34, 36, 37, and 39, are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,374,667 to Eriksen et al. and U. S. Patent No. 6,186,941 to Blackwell as applied to claim 21 above, and further in view of U. S. Patent No. 6,359,449 to Reining et al.**

Regarding **Claims 22, 31, and 36**, Eriksen and Blackwell teaches all of the above claimed limitations but does not expressly teach that the resonant circuit resides within a sub- portion of a front side of the clothes worn by the subject.

Reining teaches a Vest coil, where in the resonant circuit is within in the front portion of clothes (vest) worn by the subject (Fig. 1 elements 14, 16 and 22 as such the coils are in the front portion of the clothes, and are interwoven with fabric/threads,).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Eriksen and Blackwell with a setup to place the coils in clothes as taught by Reining since such a setup would be more comfortable for the subject as the coils won't be in direct contact with the subject, as such would cause less irritation.

9. Regarding **claims 23 and 37**, Reining teaches a coil having conductors, wherein the resonant circuit is integrated into an insulating fabric carrier and the conductors are interwoven with threads of the insulating fabric carrier (Fig. 1 elements 14, 16 and 22 as such the coils are in the front portion of the clothes, and are interwoven with

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fabric/threads, elements 14, 16, 18, 20 are difference circuits, and the claim recites only one circuit that needs to be in the front portion).

10. Regarding **claims 25, 26 and 39**, Reining teaches a second resonant circuit that induces a magnetic field in a reference volume of the subject and that provides a second signal characteristic a state of the reference volume and comparing the signals (col. 3 lines 28-34 teaches 2 coils and comparing the signals, where in one signal is a reference volume signal).

11. Regarding **Claim 34**, Reining teaches generating an alarm (col. 3 lines 28-34 teaches 2 coils and comparing the signals, where in one signal is a reference volume signal and generate an alarm if it detects distress).

12. **Claims 32 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over U. S. Patent No. 6,374,667 to Eriksen et al. and U. S. Patent No. 6,186,941 to Blackwell as applied to claim 21 above, and further in view of U. S. Patent No. 5,760,688 to Kasai.**

13. Regarding **Claims 32 and 33**, Eriksen and Blackwell teaches all of the above claimed limitations but does not expressly teach that the resonant circuit is integrated into a furniture/bed sheet.

Kasai teaches that the fabric carrier is part of a furniture (Fig. 5) but does not expressly teach that the insulating fabric carrier is a bed sheet.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify Eriksen and Blackwell with a setup such that the coil is in a furniture

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as taught by Kasai or bed sheet, since such a setup would result in the system being more flexible and usable in many different situations, moreover where you place the coil is merely a design choice, since the coil needs to be near the subject, and whether the coil is on the subject or the furniture as long as the region of interest is within the coil's magnetic field it would be able to generate a signal, and detect the physiological state.

Response to Arguments

14. Applicant's arguments, see remarks, filed 01/07/2011, with respect to the rejection(s) of claim(s) 21-40 under 102 have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of U. S. Patent No. 6,374,667 to Eriksen et al. in view of U. S. Patent No. 6,186,941 to Blackwell.

15. Applicant's arguments with respect to claims 21-40 filed on 01/07/2011 have been considered but are moot in view of new grounds of rejection.

16. Applicant argues that none of the references teaches that the coils does not surround the perimeter of the human subject.

17. Examiner would like to point out that the newly applied reference teaches this limitation, specifically fig. 1b which teaches a bandage with a resonant coil, as such all claim limitations have been met.

Conclusion

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18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to SANJAY CATTUNGAL whose telephone number is (571)272-1306. The examiner can normally be reached on Monday-Friday 9-5.

19. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long Le can be reached on (571) 272-0823. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

20. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SANJAY CATTUNGAL/
Examiner, Art Unit 3768

/Long V Le/
Supervisory Patent Examiner, Art Unit 3768